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REMEDIAL INVESTIGATION REPORT
FOR THE
TRANSIT AMERICA INC. RED LION ROAD FACILITY

DOCUMENT 1
VOLUME 1

Submitted by: Transit America Inc.
One Red Lion Road
Philadelphia, PA 19115

Submitted to: Pennsylvania Department of Environmental Protection
Environmental Cleanup Program
Southeast Regional Office
Conshohocken, PA 19428

Pursuant to: Pennsylvania Land Recycling and Environmental
Remediation Standards Act (Act 2)

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March 1998

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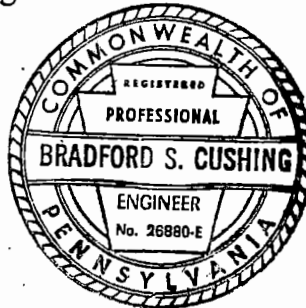
**REMEDIAL INVESTIGATION REPORT FOR THE
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EXECUTIVE SUMMARY

Transit America Inc.'s Redevelopment of the Red Lion Road Facility

INTRODUCTION

Transit America Inc. ("Transit America") has prepared and submitted to the Pennsylvania Department of Environmental Protection ("PADEP") a Remedial Investigation Report, Risk Assessment and Cleanup Plan for its Red Lion Road facility in compliance with the requirements of the Land Recycling and Environmental Remediation Standards Act, 35 P.S. § 6026.101 et seq. ("Act 2"), and its implementing regulations, 25 Pa. Code Chapter 250. Act 2, signed into law by Governor Ridge in July 1995, provides a mechanism in Pennsylvania for companies to redevelop industrial sites into valuable economic and community assets. In Transit America's case, the determination was made to redevelop its 214 acre former manufacturing facility into an 18-hole public golf course.

Transit America commenced voluntary investigatory and remedial activities in 1987, and is now completing this work in accordance with Act 2.

This Executive Summary provides an overview of Act 2; a description of Transit America's redevelopment plans, site history and setting and remediation activities already undertaken; and a synopsis of the reports submitted to PADEP under Act 2.

LAND RECYCLING AND ACT 2

Act 2, together with the regulations adopted in August 1997, provide the legal and regulatory framework for creative redevelopment proposals. The four cornerstones of Act 2 are: (1) uniform cleanup standards based on human health and environmental risks; (2) standardized and timely agency review procedures; (3) releases from liability after attainment of a cleanup

standard; and (4) financial assistance in special circumstances. Act 2 provides the framework and means for property owners to remediate and reuse former industrial properties and to preserve valuable green space. Toward this end, Transit America has worked closely with PADEP as the redevelopment process has progressed at the Red Lion Road site to ensure full compliance with Act 2.

REDEVELOPMENT PLANS

Transit America, the former railroad passenger car manufacturer, is redeveloping its former manufacturing facility located at One Red Lion Road, Philadelphia, Pennsylvania. After thoroughly analyzing several reuse options for the property, Transit America plans to construct an 18-hole public golf course and associated facilities. This was determined to represent the best future use of the property based, in part, on a market study conducted on behalf of Transit America by the National Golf Foundation ("NGF") of Jupiter, Florida. The NGF market study concluded that there is a need and potential market for such a facility, finding that the area "clearly had a demand in excess of the supply" of golf courses.

The portion of the site north of Red Lion Road, approximately 194 acres, provides ample area for an 18-hole public golf course and associated facilities such as a clubhouse, practice area, and driving range. The remaining 20 acres of the site south of Red Lion Road, historically used by the company for employee parking, is not currently included in the golf course plan but will be addressed along with the main parcel for possible redevelopment.

The planned public golf course development is expected to provide long term benefits to the local community including;

- converting an idle, former manufacturing facility into open, green space;
- providing a new and needed recreational resource; and
- contributing to the employment and overall health of the local economy.

Transit America's golf course redevelopment plan is designed to restore the site to productive use while protecting the environment. Since mid-1997, Transit America has met with neighbors, stakeholders at all levels of government, and other interested parties to explain the redevelopment plans and has received overwhelmingly positive support for the proposed golf course.

Transit America filed a Notice of Intent to Remediate ("NIR"), as required by Act 2, in December 1997. Public notice was published in *The Philadelphia Daily News* and *The Times Herald* and individual notices were submitted to Lower Moreland Township and the City of Philadelphia, the two local municipalities in which the site is located. The NIR was also published in the Pennsylvania Bulletin on January 10, 1998. An Act 2 Public Involvement Plan was not requested by the municipalities.

SITE HISTORY AND SETTING

The western one-quarter of the 214-acre property lies in Lower Moreland Township, Montgomery County, and the eastern three-quarters lie in the City of Philadelphia, Philadelphia County. The site was first developed for manufacturing during World War II to produce aircraft parts and to assemble military cargo airplanes for the United States government. At the end of World War II, the facilities were converted to manufacture passenger railroad cars. In 1950, automotive chassis manufacturing was added.

For 44 years, the Red Lion Road facility was a vital part of the local and regional economy. At its peak, more than 2,000 workers were employed at the plant. Over 12,000 rail transit vehicles were designed and manufactured at the facility, the last being in April 1987, when international competition forced the facility to close.

The site is relatively flat. Fifty-seven of the 214 acres are either paved, under roof, or occupied by rail spurs. The majority of the remaining 157 acres is covered by annual perennial grasses. Site features such as a 25-acre stormwater retention basin, an aesthetically attractive, low-lying, heavily vegetated area of uneven terrain will provide an exceptional setting for the proposed golf course. The dominant, and most prominent, structures on the property are the 27 acre (1.2 million square feet) concrete Main Assembly Building ("MAB") and the five-acre cinder block and steel Chevrolet Building.

REMEDATION ACTIVITIES INITIATED BY TRANSIT AMERICA PRIOR TO THE ENACTMENT OF ACT 2

After the cessation of manufacturing in 1987, and with no viable future manufacturing prospects, Transit America began a voluntary assessment of the property to determine current environmental conditions. This comprehensive three-year environmental assessment of the property was completed in late 1989, culminating with the submittal of a multi-volume report to the Pennsylvania Department of Environmental Resources (the previous name of PADEP) containing environmental investigation and sampling data, a human health risk assessment, and an interim remedial action plan. Voluntary remedial actions proceeded thereafter under PADEP's oversight. More than 8,000 samples from soil, groundwater, stormwater and building structures have been collected at the site and analyzed for substances of environmental concern.

The results of the three-year environmental assessment indicated that two primary groups of regulated substances were present on the Transit America property, - polychlorinated biphenyls ("PCBs") and volatile organic compounds ("VOCs"). PCBs were found at the site in surface and subsurface soils and on interior surfaces of some former manufacturing buildings. VOCs, primarily cis-1,2-dichloroethylene, trichloroethylene and tetrachloroethylene ("cis-1,2-DCE," "TCE," and "PCE," respectively) and benzene, toluene, ethyl benzene and xylene ("BTEX") were identified at the Red Lion Road facility in

groundwater and in below-ground former disposal areas. The risk assessment completed at that time concluded that human health risks were within the U.S. Environmental Protection Agency's acceptable risk range.

In response to the discovery of these regulated substances, Transit America implemented a series of phased, voluntary environmental remedial actions which have, in substantial degree, remediated regulated substances in soils and groundwater, and on the interior surfaces of some former manufacturing buildings.

Major remedial actions performed by Transit America during this period included:

- A groundwater investigation and remediation program conducted on a phased basis from 1988-1993 which involved the installation of 80 groundwater monitoring wells and 13 groundwater extraction wells. Five distinct groundwater VOC plumes were identified and thoroughly delineated on the property. In 1995-1996, a groundwater extraction program, approved by PADEP, was initiated to establish on-site hydraulic control of the five plumes.
- A decommissioning program, performed from 1986 through 1996, which addressed 14 underground storage tanks ("USTs") by either closure in place, or removal and off-site disposal. These activities were reported to and approved by PADEP. The tanks had been used for the storage of paints and petroleum products.
- A soil vapor extraction ("SVE") program, approved by PADEP, was implemented in two phases from 1993-1997. VOCs were removed from soil in six former sub-surface disposal areas and two former UST areas. The purpose of the SVE program was to reduce levels of VOCs in soil to remove potential sources of groundwater contamination.
- A soil removal program which resulted in the remediation of surface soils (to a depth of 18 inches) from 22 localized areas on the property which had contained PCBs at

levels greater than 1000 ppm. Clean fill was used to replace the excavated soils. A total of 1640 cubic yards of soil and debris were removed and properly disposed of off-site.

- A decontamination program within the MAB which consisted of a comprehensive and far-reaching effort including (1) asbestos abatement, (2) demolition, removal, and disposal or recycling of interior non-concrete materials, and (3) 10,000 psi high pressure water washing of interior surfaces. Transit America also decontaminated open press pits and several conveyor tunnels beneath the concrete floor slab of the MAB.
- A decontamination program for the 2 million gallon process cooling water concrete basin which included removal, dewatering, and off-site incineration of 176 tons of sediment-like material containing elevated concentrations of PCBs and metals, followed by pressure washing of the concrete basin.
- Construction of additional stormwater management controls in the stormwater retention basin and at other locations at the site which resulted in substantial water quality improvements during storm events.

To complete these and other voluntary remedial actions, along with the preparation of the 1987-89 environmental investigation and performance of follow-up site investigations needed to fill data gaps, Transit America has expended approximately 17 million dollars. These actions were initiated in advance of the enactment of Act 2 and its regulations and any determination by Transit America as to the proposed future use of the site. Prior to the enactment of Act 2, uniform cleanup standards based on human health or environmental risks did not exist, and releases from liability after cleanups were performed were unavailable.

REPORTS SUBMITTED UNDER ACT 2

Act 2 enables the remediator to select one or a combination of three cleanup standards for remediating regulated substances in soil and groundwater: (1) a background standard; (2) a statewide health standard as set forth in the Act 2 regulations; and (3) a site-specific standard developed for individual sites based on the findings of a site-specific risk assessment. Transit America intends to achieve a combination of statewide health standards and the site-specific standard. Accordingly, Transit America has prepared a Remedial Investigation Report, Risk Assessment Report and Cleanup Plan and is submitting them simultaneously along with this Executive Summary to PADEP for review and approval. Each of these reports was prepared in compliance with the requirements of Act 2.

1. Remedial Investigation Report

The Remedial Investigation Report contains a detailed description of environmental conditions at the site and describes the numerous investigative and remedial actions undertaken by Transit America since 1987.

The aggressive data collection program included soil sampling across the site represented by more than 900 soil borings, more than 4,000 subsurface soil samples and approximately 2,000 surface soil samples. Since PCBs were identified as the primary regulated substance of concern in soils, more than 6,000 soil samples were analyzed for PCBs. Groundwater conditions have been defined by more than ten years of sampling involving a total of 93 groundwater monitoring and extraction wells throughout the site. Approximately 1,000 groundwater samples were analyzed for VOCs, since that class of compounds was determined to be the only regulated substances of concern in groundwater. Finally, a considerable groundwater modeling effort, including detailed fate and transport evaluations, has aided Transit America's understanding of the environmental conditions at and

surrounding the site and potential human health and environmental impacts based on projections of future site conditions under various scenarios.

The long history of site investigation, data gathering and substantial remedial actions have enabled Transit America to prepare its redevelopment plans with considerable confidence.

2. Risk Assessment

To meet the requirements of Act 2, a human health and environmental risk assessment was performed. Looking ahead at the future use of the site, experts retained by Transit America confirmed that a golf course redevelopment plan could be accomplished while attaining the standards established by Act 2. Due to the effectiveness of Transit America's remedial actions at reducing risk at the site, it was determined that minimal residual risk remained when examining the site redeveloped as a public golf course. It was also determined that the site as currently situated and operated does not represent a risk outside the parameters of Act 2.

The human health risk assessment concludes that by removal of one small area of surface soil containing PCBs on the interior of the site, the site would comply with the Act 2 risk standards for the most exposed future human receptor - a golf course maintenance worker. No other regulated substances or areas of the site contribute to an unacceptable risk at the site based on its planned future use.

The ecological risk assessment concludes that no ecological receptors identified in the Act 2 regulations are present at the site except for small typical wetland areas (totaling 1.4 acres) which are defined within the Act 2 regulations as a "habitat of concern." They are man-induced wetlands with limited value and function. Transit America's proposed golf course

redevelopment plan either will not impact these wetlands or will mitigate any impact through the construction of replacement wetlands that are expected to provide greater value and function.

3. Cleanup Plan

The risk assessment findings demonstrate that current concentrations of regulated substances in surface soils do not pose an unacceptable risk after approximately 120 cubic yards of soils containing PCBs are removed, based on the planned future use for the property as a public golf course. Transit America will remove those soils and, accordingly, surface soil conditions will thereafter comply with the Act 2 site-specific standard. Regulated substances in subsurface soils pose no unacceptable risk if left undisturbed, a condition which will be maintained in the future by institutional controls such as deed restrictions. For groundwater, no exposure pathways exist for four of the groundwater VOC plumes beneath the property and, thus, current VOC levels in these areas already meet a site-specific standard. For the fifth VOC plume, located on the western sector of the property, the pathway has been eliminated through the currently operating groundwater extraction program which will continue to maintain hydraulic control of the plume and to enhance the decline of VOC levels in groundwater.

To convert the property from its industrial character to a public golf course, Transit America plans to implement a variety of additional remedial actions not required to attain an Act 2 cleanup standard. These additional remedial actions have been identified by Transit America consistent with the development of the golf course on the property. These actions include:

- Removing surface soils containing PCBs from several localized areas of the site and relocating or disposing of these soils in accordance with applicable requirements.
- Placing soil cover or paving on substantially all areas of surface soils which exceed 44 ppm PCBs (the Act 2 statewide non-residential standard for PCBs in surface soil)

and integrating the placement and configuration of the cover or paving with the golf course design.

- Performing additional soil vapor extraction by a more rigorous procedure, air sparging, on the remaining subsurface pocket of elevated VOCs to reduce further these levels in soil.
- Demolishing buildings and other structures, recovering and recycling steel, size-reducing non-steel debris, and either beneficially using the debris on the property as fill or disposing of the debris off-site at a permitted facility.
- Covering the exposed building floor slabs and other exterior paved surfaces with soil and revegetating or paving to facilitate golf course development.
- Segregating and size-reducing construction debris in five debris piles located on the property, and either beneficially reusing the debris on the property as fill or disposing of the debris off-site at a permitted facility.
- Evaluating additional stormwater control measures that may be integrated into the golf course redevelopment plan.

The total cost for continuing the groundwater extraction program on the western boundary, performing the additional remedial actions, and redeveloping the site into the golf course, is estimated to be in excess of an additional 20 million dollars.

4. Golf Course Development Plan

A Golf Course Master Plan for the property has been prepared by a registered golf course architect in coordination with Transit America. A copy is included with this Executive Summary. Considerable thought went into the design of the golf course in order to take into account sensitive environmental features and planned remedial actions. Some of these considerations are as follows.

- The South Parking Lot and a spur of property in the northwest corner have been excluded from the Master Plan, allowing the opportunity for these areas to be developed for other purposes. Documentation will be provided to demonstrate attainment of statewide residential soil standards in these areas and they will be properly delineated by a professional surveyor.
- A seven-acre buffer zone between the western fence line and Pine Road has been preserved.
- The Master Plan is sensitive to and avoids interference with any of the necessary groundwater monitoring and extraction wells.
- The golf course layout generally avoids intrusion into the 25-acre stormwater retention basin and associated drainage ditch in the northwest sector of the property, an aesthetically pleasing area.
- Paved areas and concrete pads will be left in place and covered with soil. Existing asphalt paving will first be broken-up or otherwise perforated before covering to allow for percolation of rainwater and stormwater run-on.
- The routing of the golf holes and the placement of facilities has generally followed an approach of avoiding the eight former disposal areas. This will keep these areas physically and geographically separated from the golf holes and will allow for the development of more elaborate vegetative or other cover over these areas thereby further limiting, along with deed restrictions, the potential for future disturbance.
- The 27-acre soil cover over the MAB floor slab will be primarily dedicated to and developed as a 400-yard long two-sided driving range with paved parking areas on either end. The west end of the driving range will serve the golf course users while the east end of the driving range will serve the general public.
- An approximately four-acre pond will be constructed in the northeast corner of the property. In addition to replacing wetland areas, another function of the pond is aesthetic appeal; six of the golf holes are influenced by the presence of the pond. Construction of this pond will result in the only substantial excavation of subsurface

soils required for the construction of the golf course. The excavated soils will be tested and used for fill in other areas of the property, as appropriate.

The golf course construction is targeted for completion in 2001, and the golf course is expected to be ready for play in 2002.

ACT 2 APPROVAL STATUS

With this submittal of Act 2 documents by Transit America to the PADEP, a 90-day review cycle begins. Following approval of the Act 2 documents, implementation of the cleanup plan including the additional remedial measures and detailed design and construction of the golf course will commence.

1.3 Property

The Transit America property is located in Pennsylvania at latitude 40°06'30" and longitude 75°02'30". Figure 1 is a location map. The Transit America property is approximately 214 acres. Twenty of the 214 acres lie south of Red Lion Road; the other 194 acres lie north of Red Lion Road. (Compass directions stated herein are relative to "plant north," as depicted on the figures.) The western one-quarter of the property lies in Lower Moreland Township, Montgomery County and the eastern three-quarters of the property lies in the City of Philadelphia, Philadelphia County. Manufacturing activities on the property were terminated in April 1987. The 194 acres north of Red Lion Road are enclosed by a six-foot high chain-link fence topped with barbed wire, except for two areas: 1) an area measuring about 0.8 acre lies outside the northeast fenceline and 2) a nominal 2,000-foot by 150-foot area (about seven acres) lies between the western fenceline and Pine Road. The setback has remained unoccupied and unused through the years, consistent with a 1949 Indenture between The Budd Company and neighboring landowners, approved by the Lower Moreland Township Board of Adjustment.

Access to the fenced property north of Red Lion Road is limited to one entrance road at Red Lion Road, controlled by a 24-hour-per-day guard service. The 20 acre lot of property south of Red Lion Road is known as the South Parking Lot, based on its historical usage, and is only partially enclosed by a fence.

1.4 Notice of Intent to Remediate

A Notice of Intent to Remediate ("NIR") the 214-acre property was submitted to the PA DEP and the two municipalities in which the property is located on December 1, 1997, and was published in a local newspaper in each municipality on December 4, 1997. The NIR was published in the PA Bulletin on January 10, 1998. The NIR indicated that Transit America

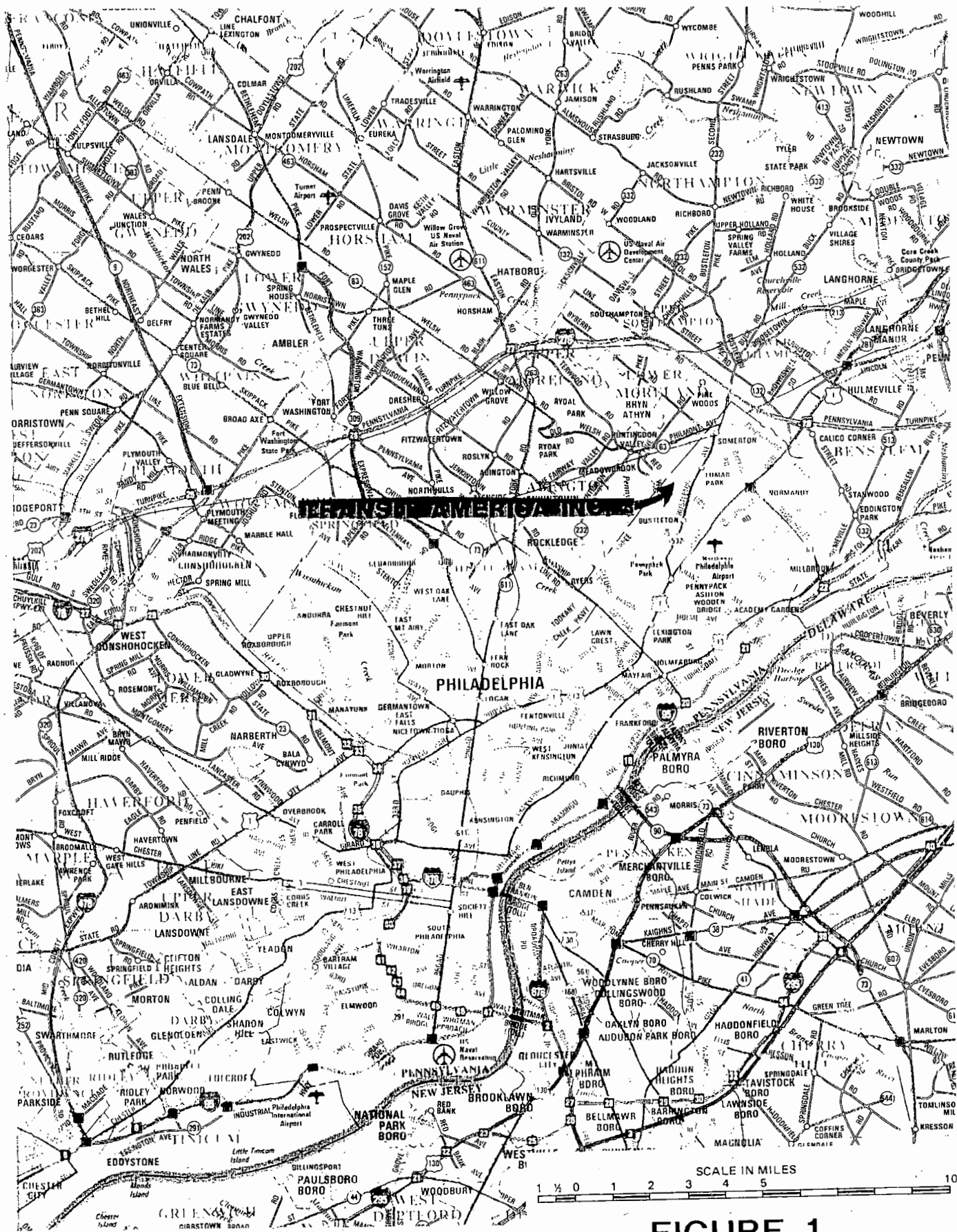


FIGURE 1

SITE LOCATION MAP

Fig. 2

Atlantis Aerial Survey Co, Inc.
Budd Lake, NJ

March 1996 Aerial Photo

Transit America, Inc.

Red Lion Road
Phila.

plans to use a combination of Act 2 standards at the property, including both Statewide Standards and site-specific standards. A Public Involvement Plan was not requested.

1.5 Background

1.5.1 Manufacturing History

In 1943, a manufacturing plant was built on the property by The Budd Company. The property was leased from the federal government. The most prominent feature of the plant was, and still is, the 25 acre (1.1 million square feet), concrete Main Assembly Building ("MAB"). The Budd Company manufactured aircraft parts and assembled "Conestoga" military cargo airplanes for the federal government. In 1945, at the end of World War II, the Conestoga program ended and the facilities were converted for the manufacture of passenger railroad cars.

In 1948, the property was purchased from the federal government by The Budd Company for the purpose of continuing railcar manufacturing. In 1950, automotive chassis manufacturing was introduced, in addition to the railcar manufacture; automotive parts manufacturing ceased in 1978. To accommodate increased production, additional manufacturing buildings were subsequently constructed which included a five-acre building called the "Chevrolet Building" (Building 112), constructed in 1954, and a 1.4 acre addition to the MAB in 1973 called the "Rainbow Room."

In 1985, The Budd Company's Transit Division was spun off and a new corporation, Transit America Inc., was formed. Transit America Inc. subsequently became the owner of the property.

From 1945-1987, over 12,000 rail transit vehicles were designed and manufactured at the Red Lion Road property. The last of the rail transit vehicles was produced in April 1987.

At that time, all manufacturing was terminated at the Red Lion Road property as a result of foreign competition.

Figure 2 is an aerial photo of the property, taken in March 1996 by Atlantis Aerial Survey, Inc. Figure 3 is a plan view of the property identifying topography and the prominent features, buildings, and structures, prepared from the same aerial photo by Barry Isett and Associates, a PA licensed surveyor.

1.5.2 Regulated Substances of Concern

Two groups of regulated substances of primary concern are present on the Transit America property, polychlorinated biphenyls ("PCBs") and volatile organic compounds ("VOCs"). These substances were initially identified during an environmental assessment conducted by Transit America from 1987-1989 (described in Section 2.2). These are the two groups of substances which are the primary focus of the Act 2 investigation and remediation.

PCBs are not a single chemical compound, but are a group of 209 possible chlorinated hydrocarbon compounds, each distinguished by a unique molecular configuration of carbon, hydrogen, and chlorine. Commercial mixtures of PCBs were manufactured in the United States by the Monsanto Company under the trade name "Aroclor." Nine Aroclor mixtures were marketed by Monsanto, each comprising a variety of PCB compounds in different proportions. PCBs were commonly used in this country during the 1950s, '60s, and '70s for fire-resistance in hydraulic fluids. Fire resistant hydraulic fluids replaced the more commonly used petroleum oils in hydraulic systems which operated near potential sources of ignition such as molten metal or sparks. In such circumstances, a spray of flammable hydraulic fluid (such as petroleum oil) from a leaking or accidentally-ruptured hydraulic line could be ignited and cause a fire. PCB-containing fluids were also commonly used in

electrical transformers and capacitors due to their insulating (dielectric) properties and resistance to chemical breakdown at elevated temperatures.

PCB-containing fluids were used at the Red Lion Road facility both in hydraulically-operated mechanical equipment used in the manufacturing operations, and in electric power and lighting transformers. PCBs in the mechanical equipment reportedly originated from the use of Pydraul² hydraulic fluid.

PCBs are present in surface and subsurface soils and on building interior surfaces at the Red Lion Road facility as a result of inadvertent releases from manufacturing operations and from electrical transformers, and as a result of historical disposal practices believed to have occurred decades ago. The predominant PCB Aroclor identified in the environmental samples collected on the property is Aroclor 1248; to a lesser degree, Aroclors 1254 and 1260 are also present. All PCB concentrations presented in this RI Report are "total PCBs," i.e., the sum of the concentrations of the identified Aroclors.

The predominant VOCs of concern include di, tri, and tetrachloroethylene ("cis-1,2-DCE," "TCE," and "PCE" respectively) and benzene/toluene/ethylbenzene/xylene ("BTEX"). VOCs originated from (1) the use of cleaning solvents in the manufacturing operations; (2) the use and storage of paints, paint thinners, and paint wastes, and (3) the use and storage of gasoline and other petroleum-based fuels. VOCs are present at the Red Lion Road facility in groundwater and in soil.

1.5.3 Current Environmental Conditions

The current environmental conditions at the Transit America property are the result of years of manufacturing operations, and reflect the extensive voluntary environmental remedial

² Pydraul is a Monsanto Company trade name for a wide variety of PCB-containing hydraulic fluids. The predominant Aroclor mixture in the type of Pydraul used at the Red Lion Road facility was Aroclor 1248.

actions subsequently undertaken by Transit America since 1987. The environmental remedial actions, which have been performed on a phased basis, are summarized in Section 2.0 of this RI Report. Section 3.0 describes the environmental sampling protocols and defines the laboratory analytical methods used to obtain the characterization data. Section 4.0 of this RI Report presents the current characterization data for regulated substances on the property. Section 5.0 presents the pathway analysis for each medium and the remedial technology options, as required by Act 2, Subchapter D, § 250.404b and §250.408b, respectively.

The characterization data presented in Section 4.0 not only encompasses regulated substances in those media addressed by Act 2, e.g., soils,³ and surface water, but also encompasses regulated substances identified in debris piles and such facilities as buildings, structures, and subsurface vaults. Regulated substances in and on debris piles and facilities are included because (1) their management and/or cleanup will be accomplished at the same time as regulated substances in soils and groundwater and (2) their management and/or cleanup is delineated in the Cleanup Plan (Document 3) as part of the overall remedial and redevelopment strategy.

³ Groundwater is also a medium of interest, and is addressed in a separate Groundwater RI Report, Document 1, Volume 2.

tank, and one 550-gallon tank for mineral spirits (References P and Q). Contaminated soil around the tanks was also removed and disposed of off-property, which included some soil extending down to and at the bedrock interface and some soil from beneath the foundation of the former Mahon Building. In 1996, two active registered gasoline storage USTs in Tank Areas D and E were decommissioned, cleaned, removed, and disposed of off-property (Reference R), and were replaced with two above-ground storage tanks ("ASTs").

In response to the presence of elevated VOC concentrations in subsurface soils, soil vapor extraction ("SVE") was implemented on a phased basis, with the approval of the PA DEP, to remove VOCs in eight subsurface areas on the property. The goal of the SVE program was to eliminate VOCs in soil as a source to groundwater. The eight areas included six former subsurface disposal areas (the Staging Area, Chevrolet Area No. 1, West Side Area, Pickling Area, Mahon Area, and East Wash Area) and former Tank Areas D and E. Total VOC concentrations in soil exceeding 1 ppm were targeted for removal by the SVE process. The SVE program was implemented in two phases from October 1993 to May 1997 (Reference S). The SVE program was largely successful in reducing total VOC concentrations to below the 1 ppm target level established at that time. Current VOC concentrations in subsurface soils are described in Section 4.3.

2.2.4 PCBs in Soils: Remedial Actions

In December 1996 and January 1997, remedial action was implemented on the property to remove surface soils which exhibited PCBs at concentrations greater than 1,000 ppm, and replace the removed soils with clean fill (Reference T). Twenty-two discrete surface soil areas were targeted, including one area beneath a debris pile. Additionally, soil on the property near the northeast fenceline which exhibited elevated PCB concentrations (0.2 to 340 ppm) was also removed. A total of 1,500 cubic yards (cy) of soil was removed down to an eight-to-ten-inch depth, along with the debris pile which totaled 142 tons. In a second

phase, ten of the 22 targeted areas which still exhibited concentrations greater than 1,000 ppm PCBs at the eight-to-ten-inch depth were further excavated to a depth of 18 inches below grade. An additional 140 cy of soil were removed in this second phase.

Surface soil samples were collected from the bottom of each excavation and analyzed for PCBs, to determine residual PCB concentrations. Excavated areas were then backfilled with clean fill, regraded to original grade, and seeded. Removed soil was transported to, and disposed of at, Waste Management's permitted landfill in Model City, New York.

2.3 Environmental Remedial Actions: Buildings and Structures

2.3.1 MAB Press Pits and Conveyor Tunnels: Remedial Actions

Hydraulically-operated mechanical presses associated with the manufacturing operations were positioned above or supported within pits in the northwestern sector of the high bay of the MAB and in the Rainbow Room. The pits varied in depth, but typically extended 15 to 18 feet below the top-of-floor slab. Metal scraps and cutting oil from the press operations fell into the pits beneath the production areas and were collected and transported by conveyors through a network of conveyor tunnels to two separate discharge points outside the MAB. In the mid-1980s, the presses were dismantled in place and all but one of the press pits were filled, topped with crushed stone, and capped with concrete.

In late 1990, the remaining open press pit and sections of the east and west conveyor system tunnels were decontaminated by APTEC, Inc. and SAB Environmental Services. First, residual water (scum water and oil/water) was removed into tankers by pumping, tested for PCBs and RCRA hazardous waste characteristics, and disposed of off-property. About 20,000 gallons of waste water were disposed of as a non-hazardous waste at the Remtech Oil Recycling facility in Camden, New Jersey. Second, the accessible portion of the conveyor system was disassembled and removed, the conveyor tunnels were pressure-washed with

water and steam, and loose materials (metal scraps; dislodged dirt, grease and grime; and debris) as well as the rinsate were removed, tested for PCBs and RCRA hazardous waste characteristics, and disposed of off-property. The materials were not RCRA-hazardous. PCBs in "grease/grime" samples or in thin grease layers on scrap metal measured 11 to 13 ppm. A scrape sample of residual floor grime exhibited 26 ppm PCBs; a wipe sample of the concrete floor exhibited PCBs of 230 ug per 100 cm²; and three bulk concrete floor samples (at 0-0.5, 0.5-1, and 1-1.5 inches) exhibited 9.3, 4.7, and 10 ppm PCBs, respectively. The rinsate water was disposed of at Remtech. The waste solids were disposed of at the Dearborn Refining Company facility in Dearborn, Michigan. Washed scrap metal was sent to an off-property metal recycling facility.

In early 1997, additional remedial work was implemented by OBG in the two east conveyor system tunnels. Sections of the MAB concrete floor were removed to allow access to the full extent of the east conveyor system. The two tunnels were dewatered after measures were taken to reduce water infiltration. About 118,000 gallons of water were ultimately removed by pumping into 20,000-gallon tanks. The collected water was treated by an oil/water separator, bag filter, and activated carbon columns and was discharged under a use authorization to the City of Philadelphia sanitary sewer system. Conveyor equipment was dismantled and removed; debris (oil and grease residues, rags, pipe, conduit, wood, and gravel) was removed; the floors of the two tunnels were "squeegeed" to remove residual oil and grease, and the floors and walls of the tunnels were power-washed and the resultant rinsate was removed. Finally, the two tunnels were backfilled, first with grout, then stone, and then by a topping of concrete to the elevation of the MAB floor. About 28 tons of the removed concrete floor and 37 tons of debris were disposed of as PCB containing solid waste at Wayne Disposal in Belleville, Michigan. About 380 gallons of oily residue were also disposed of at the same location.

2.3.2 MAB and Rainbow Room Interior Surfaces: Remedial Actions

From 1987-1991, sampling programs for PCBs were conducted inside the MAB, Rainbow Room, and Chevrolet Building. Elevated levels of PCBs were identified on and in concrete surfaces, based on analysis of wipe samples, samples of surface deposits, and concrete bulk (destructive) samples from 0 - 0.5 inch depth.

Decontamination of interior surfaces of the MAB and Rainbow Room was implemented in 1996, to remove PCB surface contamination. The target was to reduce surface PCB concentrations to less than 50 ppm. The purpose was to prepare the MAB for eventual demolition, in order to greatly reduce future restrictions posed by the PCBs on both the demolition process and the disposition of the debris. Prior to the start of decontamination, asbestos abatement was completed in the MAB by Cleveland Wrecking Co., in 1994. Decontamination of interior surfaces was implemented by OHM Remediation Services. Decontamination efforts included:

- demolition and removal of non-concrete materials (e.g., wood, steel), followed by disposal or recycling;
- high-pressure (10,000 psi) water washing of interior concrete, brick, and masonry surfaces (about 2.6 million square feet);
- collection of rinsate, treatment of rinsate for PCBs in a temporary waste water treatment facility, and discharge under a use authorization to the City of Philadelphia sanitary sewer system; and
- collection of approximately 2,500 wipe and concrete bulk (one-inch depth) samples for PCB analysis, to characterize residual PCB concentrations.

The final verification sample results (a subset of the 2500 samples) are summarized in Section 4.7.1.

2.3.3 Concrete Basin: Remedial Action

A two million-gallon capacity Concrete Basin is located in the southeast sector of the property and was formerly a basin for cooling water, which was recirculated to welding processes in the MAB. The Concrete Basin was built in the 1940s and is 150 feet wide by 165 feet long by 11 feet deep. (The operating capacity was typically 1.5 million gallons with three feet of freeboard.) When the Reference A investigation was performed, the Concrete Basin was about one-half full of water and contained sediment-like material. Samples of the sediment-like material exhibited elevated concentrations of PCBs (180,000 ppm max.) and metals, including chromium, copper, nickel, lead, and zinc. Measurable concentrations of PCBs (2 ppb max.) were also present in the water. In 1993, the contents of the Concrete Basin were remediated by Transit America. First, the approximately one million gallons of water were removed by pumping through a temporary treatment system and discharging the treated water under a use authorization to the City of Philadelphia sanitary sewer system. Second, the sediment-like material was removed by pumping, and dewatered using a temporary rotary drum vacuum filter system. Following the removal of the materials, the concrete surfaces were pressure washed. The approximately 176 tons of dewatered material were transported by truck to, and incinerated at, Chemical Waste Management's permitted facility in Port Arthur, Texas.

2.3.4 Incinerator: Remedial Action

A former incinerator and associated exhaust stack are located in the southeast sector of the property near the Concrete Basin. The incinerator was reportedly last used in the 1970s. When the Reference A investigation was performed, samples of ash from the oven and stack were collected and analyzed. The ash exhibited PCBs at 4 to 35 ppm and elevated metals concentrations (antimony, cadmium, chromium, copper, lead, nickel, and zinc). An additional composite ash sample was collected in 1996 and analyzed for metals using the toxicity characteristic leaching procedure ("TCLP"). Results of the TCLP procedure

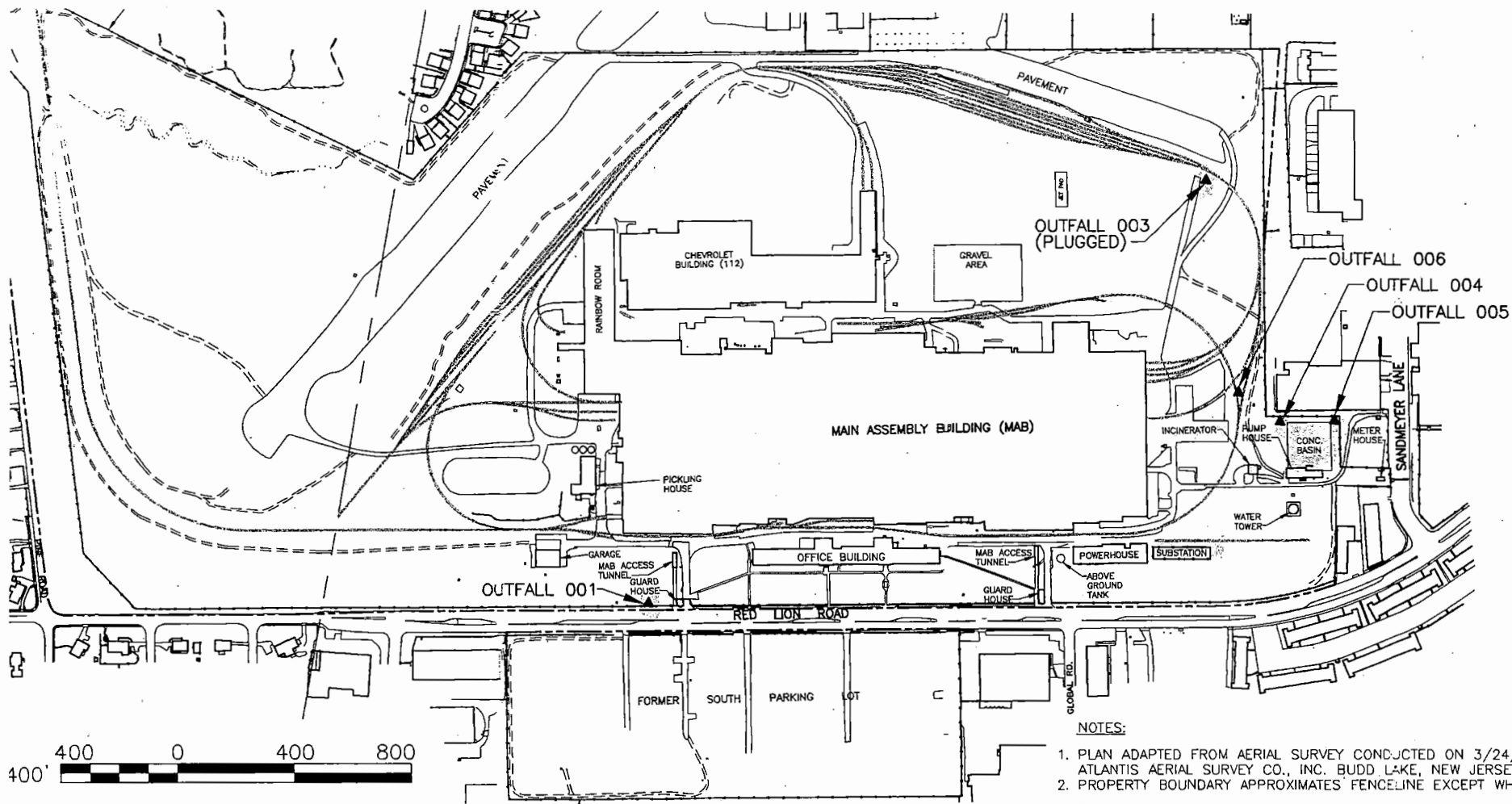
indicated that the ash should be classified as a Resource Conservation and Recovery Act ("RCRA") characteristic hazardous waste for leachable cadmium.

In mid-1996, the ash was removed by OHM Remediation Services. Ten 55-gallon drums of ash (2,500 pounds) classified as RCRA hazardous waste for cadmium were transported to, and disposed of at, Clean Harbors of Connecticut, Inc. in Bristol, Connecticut.

2.4 Summary of Environmental Remedial Actions

Transit America has successfully completed numerous environmental remedial actions throughout the property involving stormwater, groundwater, surface and subsurface soils, underground storage tanks, and facility structures. The great majority of these remedial actions have been implemented from 1991 to the present. These remedial actions are consistent with both the purpose and the intent of Section 307(b) of Act 2. Further, in significant degree, these remedial actions have accomplished final remediation on the property consistent with Act 2.

Transit America has expended approximately \$17 million for the investigations at the property and the implementation of these remedial actions.



In charge of _____ AEM
 Designed by AEM Checked by AEM
 Drawn by _____ RJD _____

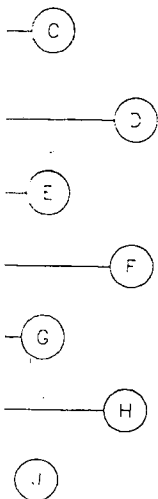


O'BRIEN & GERE
 ENGINEERS INC.

REMEDIAL INVESTIGATION REPORT, VOLUME 1
 TRANSIT AMERICA INC.
 RED LION RD., PHILADELPHIA, PA.
 LOCATION OF
 NPDES PERMITTED OUTFALLS

FILE NO.
 3672.064.26F
 DATE
 3/98

FIGURE
 6



LEGEND



— CEILING AREAS EQUAL TO OR GREATER THAN 50 PPM PCB



~~— FLOOR AREAS EQUAL TO OR GREATER THAN 50 PPM PCB (REMAINING AREAS ARE LESS THAN 50PPM)~~



— SUBSTATION AREAS EQUAL TO OR GREATER THAN 50 PPM PCB



— OHM LABORATORIES RESULT
O'BRIEN & GERE LABORATORIES SPLIT SAMPLE RESULT (PPM)

62*

— BASED ON INITIAL O'BRIEN & GERE LABORATORIES SPLIT SAMPLE RESULT (PPM)



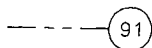
BLCA61A65-CORE
1.6 (25.6)

— BULK AT-DEPTH CORE WALL SAMPLE RESULT (PPM) WITH DESIGNATION
PREVIOUS ANALYTICAL RESULT FOR CLOSEST SURFACE (0-1") SAMPLE
BULK AT-DEPTH SAMPLE RESULT



BGCA61A63N-CORE
1.2 (6.8)

— BULK CEILING AT-DEPTH CORE SAMPLE RESULT (PPM) WITH DESIGNATION
PREVIOUS ANALYTICAL RESULT FOR CLOSEST SURFACE (0-1") SAMPLE
BULK AT-DEPTH SAMPLE RESULT



— BUILDING COLUMN LINE DESIGNATION

REMEDIAL INVESTIGATION REPORT, VOLUME 1
Main
IN ASSEMBLY BUILDING
URFACE PCB RESULTS

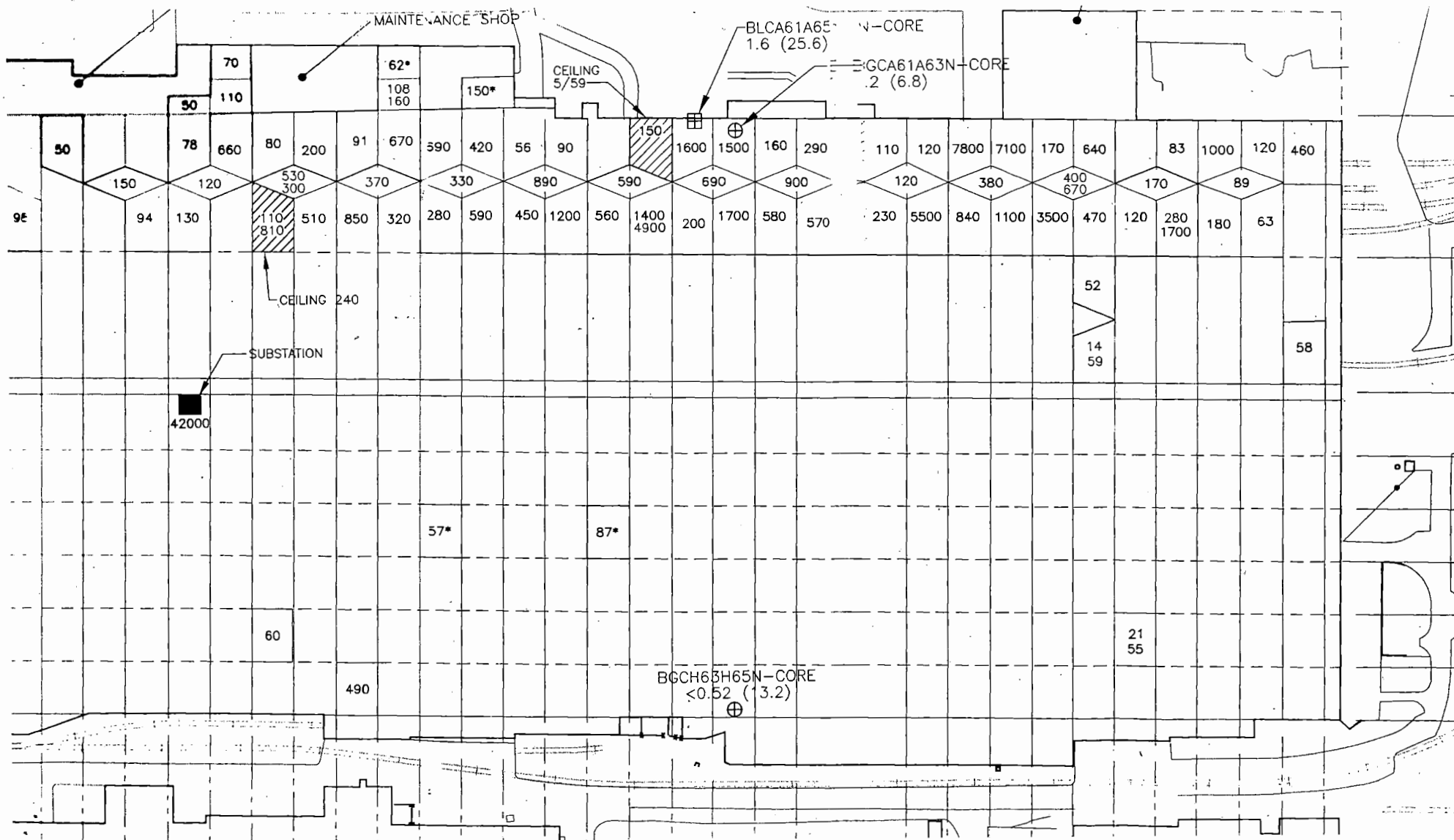
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3672.064.27F

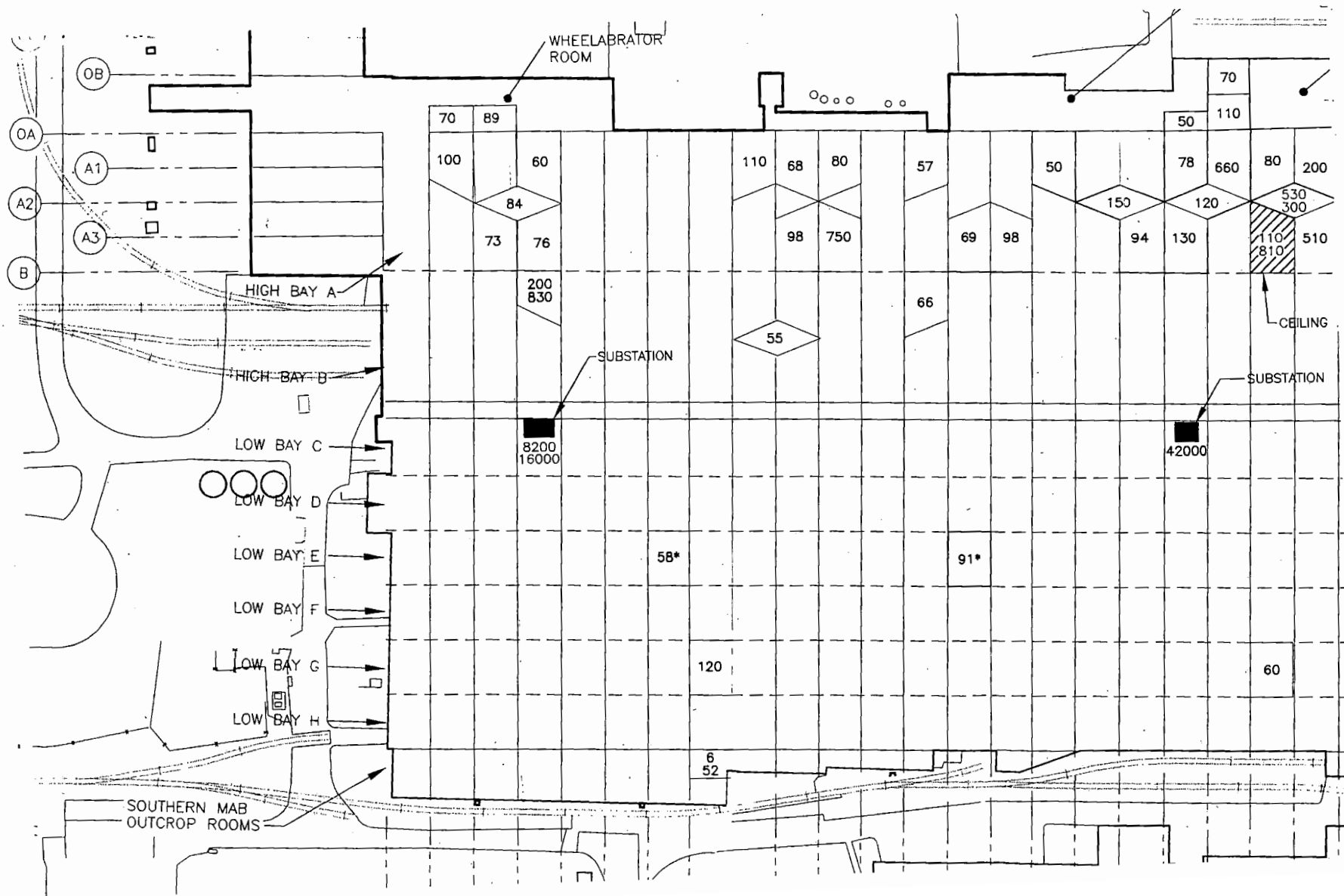
DATE
3/98

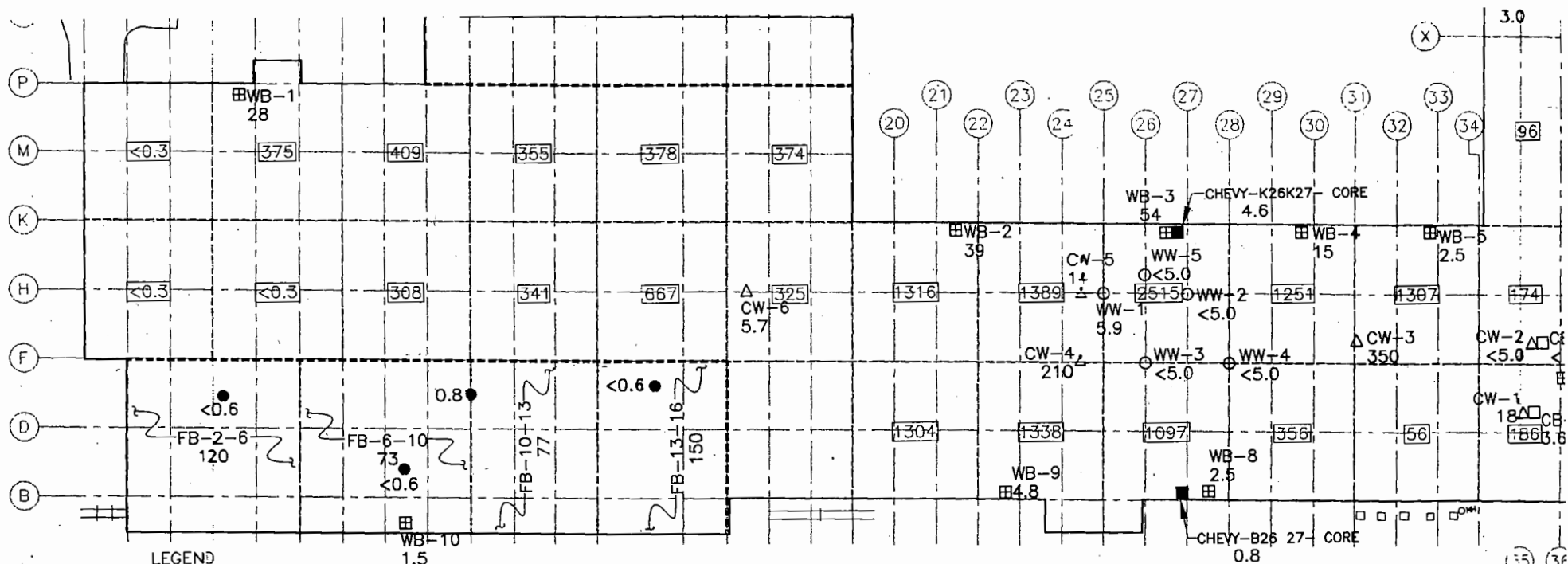
FIGURE
7

R-0

PLOT DATE: 3/16/98







LEGEND

- CHEVY-K26K27
4.6 BULK AT DEPTH CORE WALL SAMPLE LOCATION WITH DESIGNATION AND DETECTED CONCENTRATION (ppm)
- ▣ WB-10
1.5 BULK CONCRETE WALL SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)
- CB-1
3.6 BULK TRANSITE SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)
- △ CW-5
14 CEILING WIPE SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ug/100cm²)
- WW-1
5.9 COLUMN/WALL WIPE SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ug/100cm²)
- FB-2-6
120 BULK CONCRETE FLOOR COMPOSITE SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)
- 667 PREVIOUS COMPOSITE SAMPLES ACQUIRED FROM UPPER 0.5" LAYER OF CONCRETE (TYP.).
- 0.81 PREVIOUS SOIL SAMPLES ACQUIRED FROM BENEATH THE CONCRETE FLOOR SLAB (ppm).

PLAN VIEW-CHEVROLET BUILDING

NOT TO SCALE

*Chev. Bldg
Surface PCB Results*

Fig. 8

3/98

In charge of AEM



ORDEN & GEDDE

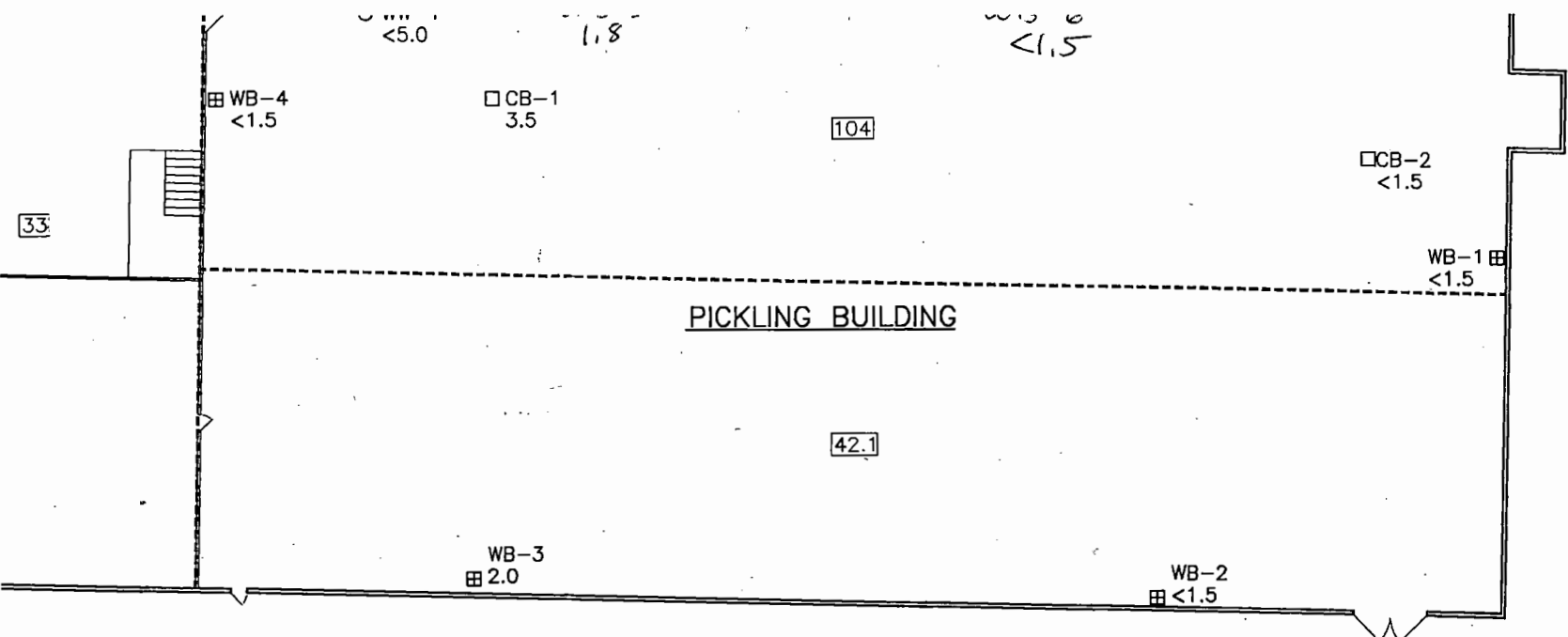
REMEDIAL INVESTIGATION REPORT, VOLUME 1
TRANSIT AMERICA INC.
RED LION RD., PHILADELPHIA, PA.

FILE NO.

3672.064.2

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PLOT DATE: 3/16/98




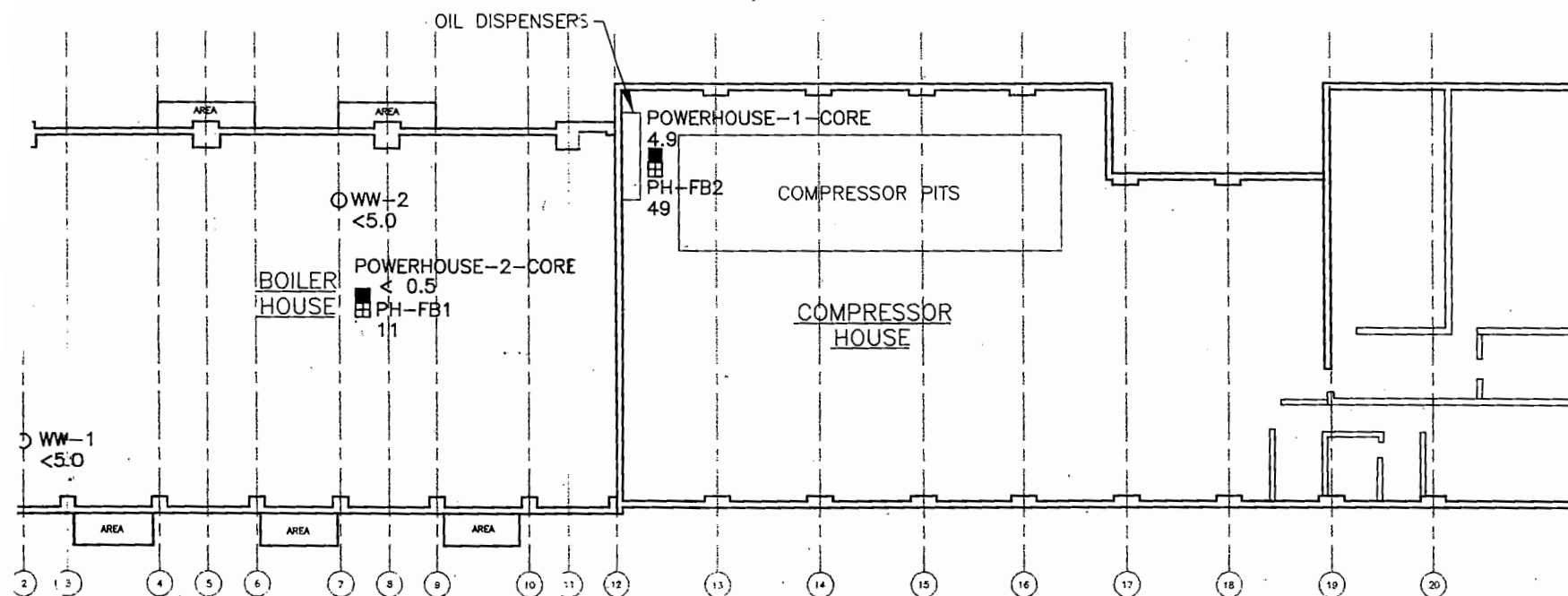
PLAN VIEW-PICKLING BUILDING

NOT TO SCALE

LEGEND

- WB-3**
 2.0
 BULK WALL SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)
- CB-1**
 3.5
 CEILING BULK SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)
- WW-1**
 3.5
 COLUMN/WALL WIPE SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ug/100cm²)
- 42.1**
 PREVIOUS COMPOSITE SAMPLES ACQUIRED FROM THE UPPER 0.5" LAYER OF CONCRETE (TYP.)

In charge of <u>AEM</u> Designed by <u>AEM</u> Checked by <u>AEM</u> Drawn by <u>RJD</u>	 OBRIEN & GERE ENGINEERS INC.	REMEDIAL INVESTIGATION REPORT, VOLUME 1 TRANSIT AMERICA INC. RED LION RD., PHILADELPHIA, PA. PICKLING HOUSE SURFACE PCB RESULTS	FILE NO. 3672.064.29F	FIGURE <div style="font-size: 2em; text-align: center;">9</div>
			DATE 3/98	



PLAN VIEW-POWER HOUSE

NOT TO SCALE

LEGEND

- PH-FB2 49 BULK CONCRETE FLOOR SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)
- WW-1 <5.0 WIPE SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ug/100cm²)
- POWER-HOUSE- CORE-1 49 BULK AT DEPTH CORE WALL SAMPLE LOCATION WITH DESIGNATION AND DETECTED CONCENTRATION (ppm)

In charge of _____ AEM
Designed by AEM Checked by AEM



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ENGINEERS INC.

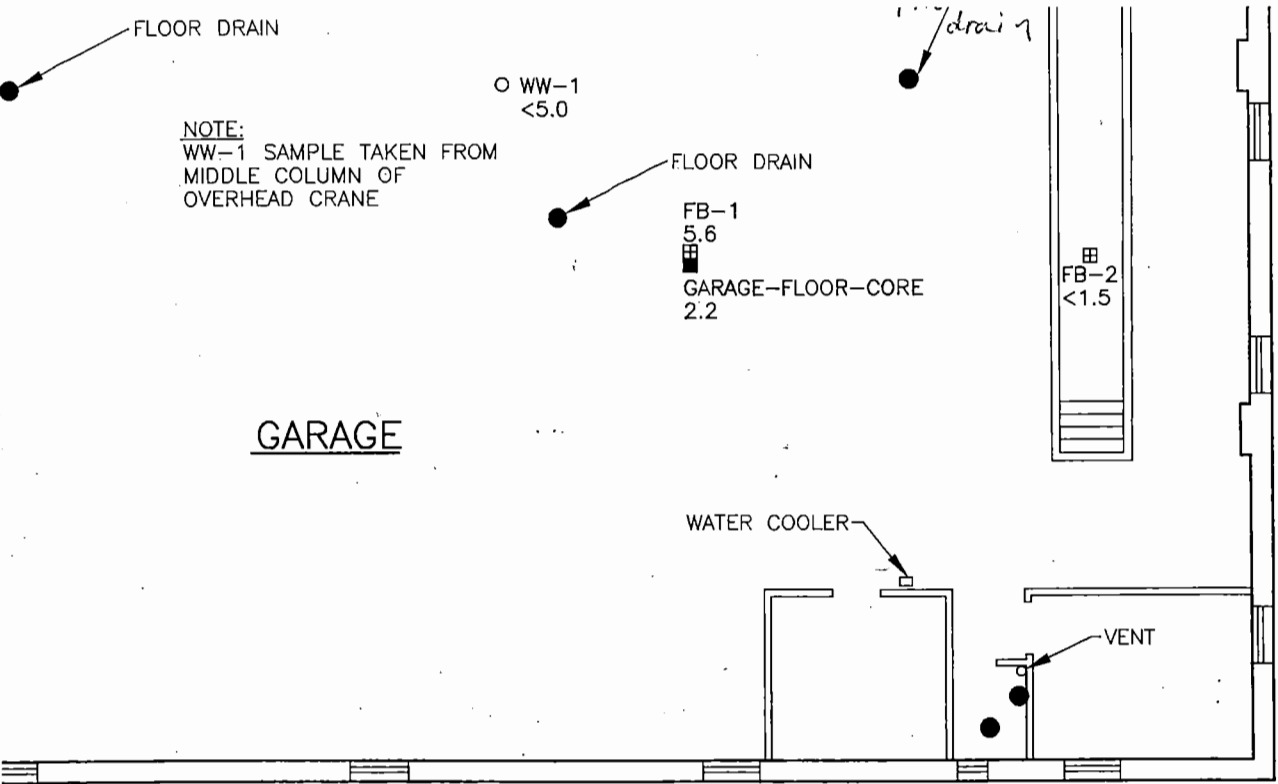
REMEDIAL INVESTIGATION REPORT, VOLUME 1
TRANSIT AMERICA INC.
RED LION RD., PHILADELPHIA, PA.

POWER HOUSE
SURFACE PCB RESULTS

FILE NO.
3672.064.30F

DATE
3/98

FIGURE
10



PLAN VIEW-GARAGE

NOT TO SCALE


- FB-1 ■ 5.6
- WW-1 ○ <5.0
- GARAGE-FLOOR-CORE ■ 2.2

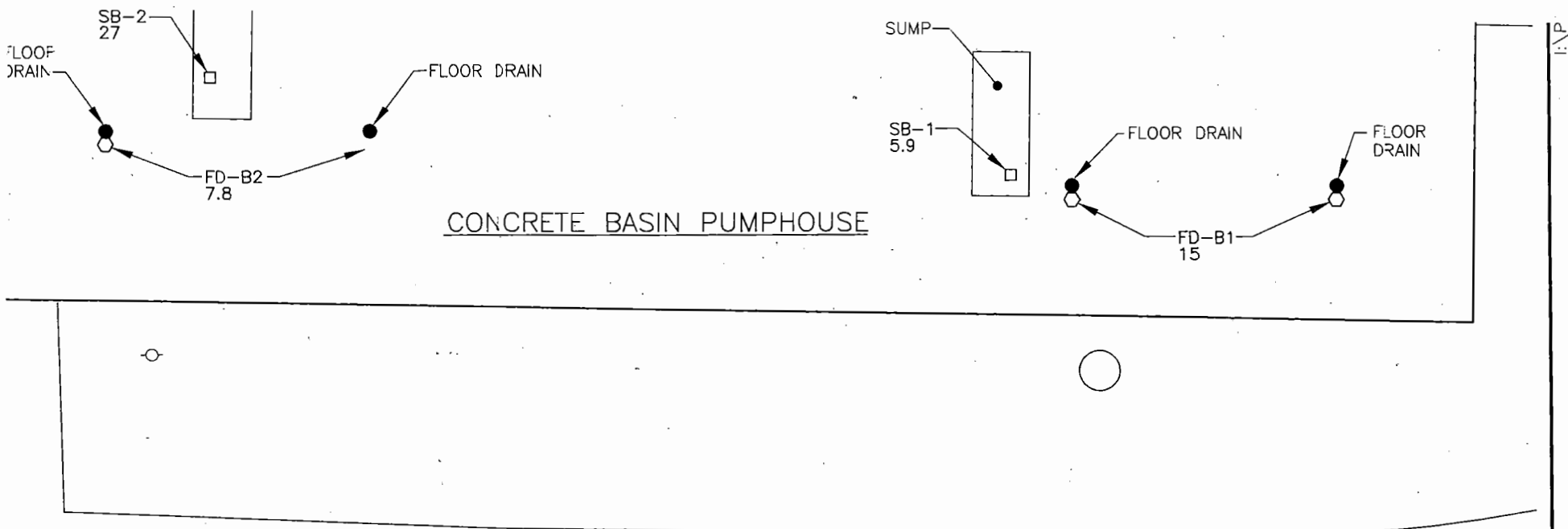
LEGEND

FLOOR BULK SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)

WIPE SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ug/100cm²)

BULK AT DEPTH CORE FLOOR SAMPLE WITH SAMPLE DESIGNATION AND DETECTED CONCENTRATION (ppm)

<p>In charge of <u>AEM</u></p> <p>Designed by <u>AEM</u> Checked by <u>AEM</u></p> <p>Drawn by <u>RJD</u></p>	 <p>OBRIEN & GERE ENGINEERS INC.</p>	<p>REMEDIAL INVESTIGATION REPORT, VOLUME 1</p> <p>TRANSIT AMERICA INC. RED LION RD., PHILADELPHIA, PA.</p> <p>GARAGE SURFACE PCB RESULTS</p>	<p>FILE NO. 3672.064.31F</p> <p>DATE 3/98</p>	<p>FIGURE 11</p>
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LEGEND

- SB-2
27 SUMP SEDIMENT/DIRT BULK SAMPLE WITH
SAMPLE DESIGNATION AND DETECTED
CONCENTRATION (ppm)
- FD-B1
15 FLOOR SEDIMENT/DIRT DRAIN COMPOSITE
BULK SAMPLE WITH SAMPLE DESIGNATION
AND DETECTED CONCENTRATION (ppm)

PLAN VIEW-CONCRETE BASIN PUMPHOUSE

NOT TO SCALE

NOTE:
SUMP AND FLOOR DRAIN LOCATIONS ARE APPROXIMATE.

In charge of <u>AEM</u> Designed by <u>AEM</u> Checked by <u>AEM</u> Drawn by <u>RJD</u>	 OBRIEN & GERE ENGINEERS INC.	REMEDIAL INVESTIGATION REPORT, VOLUME 1 TRANSIT AMERICA INC. RED LION RD., PHILADELPHIA, PA. PUMP HOUSE SURFACE PCB RESULTS	FILE NO. 3672.064.32F DATE 3/98	FIGURE 12
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PLOT DATE: 3/16/98